Second Stormy and Snowy Winter in a Row

2008-09 Winter Cold Similar to That of 2002-03 and 1993-94

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Yet another stormy, snowy winter has been the tale of the Winter of 2008-09. There were, however, two main differences between the Winter of 2008-09 and last winter, 2007-08. 1) This time the worst of the winter was early to mid winter (of course, this is part assumption on my part in regards to snow since the snowfall part of the winter is not over) whereas last winter, it was mid to late winter. 2) This winter was considerably colder and more brutal than last winter.

While the snow tally for the winter will end with the last snowflake, temperatures and rainfall for the 'Winter of 2008-09" are in. When all was said and done, the winter months pretty much unfolded like other weak La Nina winters with a colder than normal December and January and milder February all encompassed in an active storm track. More on the Winter of 2008-09, including the final snowfall tally, will be sent when the final snows are in.

Using the three main locations (Detroit, Flint and Saginaw) the average winter temperature for Southeast Lower Michigan came in at 22.5 degrees! Throw in the northern suburbs of Detroit with White Lake's temperatures and the average temperature falls to 22.2. Typically, the average winter temperature for all of Southeast Lower Michigan is 25 degrees. Therefore, the winter averaged 2.5 degrees below normal.

WINTER 2008-09 TEMPERATURES

SITE	DEC	JAN	FEB	WINTER TEMP AVE DEP
DETROIT	27.4	17.3	28.5	24.4 / -2.7
FLINT	24.7	14.5	26.2	21.8 / -2.1
SAGINAW	23.7	14.9	25.5	21.4 / -2.7
NWS WHITE LAKE	23.9	14.4	25.5	21.3 / B
DEPART FROM NORM	B	MB	A	B

MA= Much Above A=Above N=Normal B=Below MB=Much Below

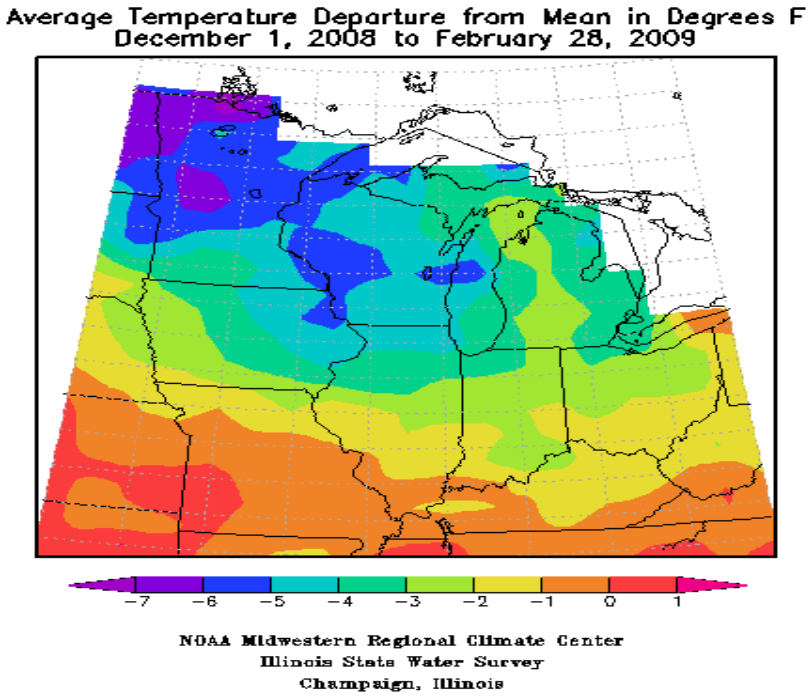
WINTER 2008-09 PRECIPITATION

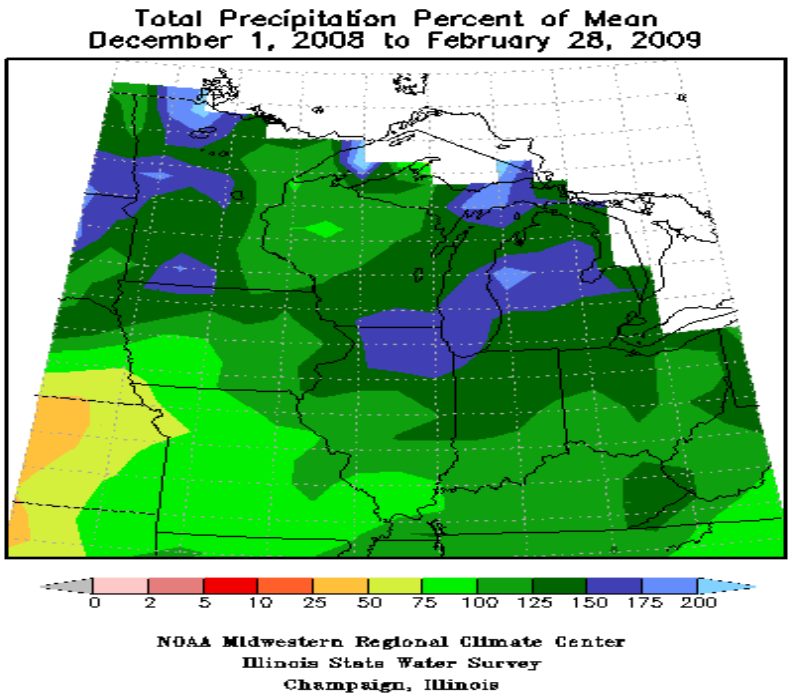
SITE	DEC	JAN	FEB	WINTER TOTAL PRECIP / DEPART
DETROIT	4.07	1.10	2.12	7.29 / +0.99
FLINT	2.79	0.96	2.57	6.32 / +1.22
SAGINAW	3.77	0.77	3.03	7.57 / +2.12
NWS WHITE LK	3.72	1.60	2.64	7.96 / A
DEPART FROM NORM	MA	B	A	A

WINTER 2008-09 SNOWFALL THUS FAR...

SITE	OCT	NOV	DEC	JAN	FEB	MAR	APR	SEASON / DEP	LAST SEASON
DETROIT	0.0	2.2	21.4	25.2	8.5			57.3 / +22.0	50.7
FLINT	0.0	9.2	29.1	17.1	10.2			65.6 / +27.6	75.0
SAGINAW	0.0	8.8	39.1	15.2	13.1			76.2 / +41.9	78.5
NWS - WHITE LK	T	10.7	34.6	25.2	6.9			77.6 / MA	78.9
DEPART FROM NORM	B	A	MA	MA	N				

Actual winter temperature and precipitation departures



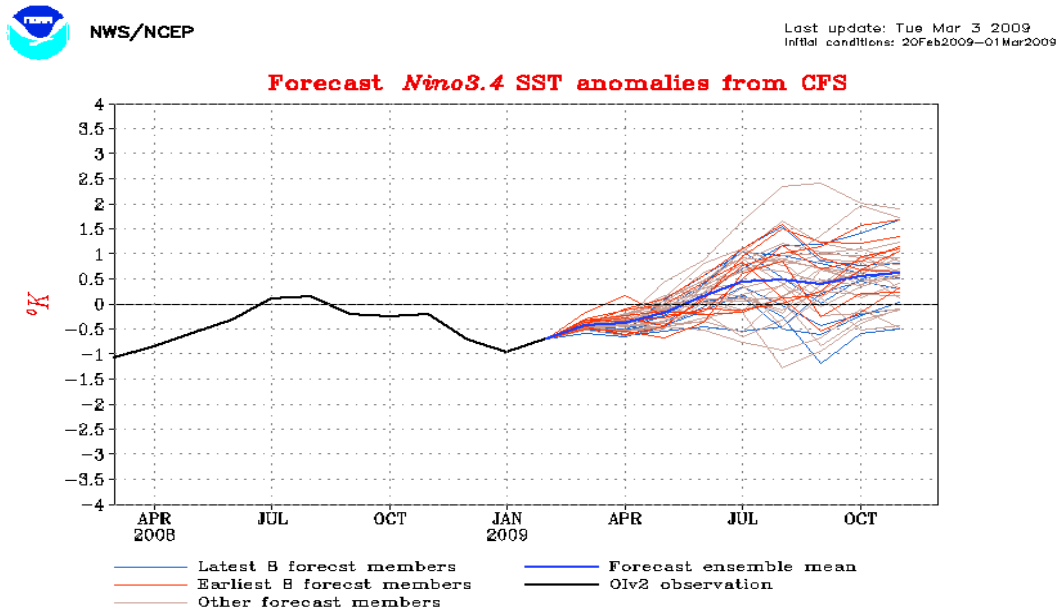


Checking out the top 20 coldest winters for Detroit, Flint and Saginaw show that the Winter's of 2002-03 and 1993-94 were the last time a winter was as cold or colder (depending on location) and the highlighted blue is this past winter.

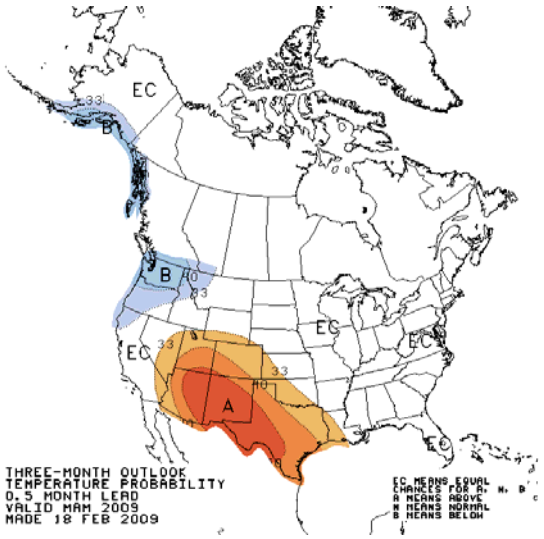
Rank	Detroit Area*				Flint Bishop**				Saginaw Area***			
	Coldest		Warmest		Coldest		Warmest		Coldest		Warmest	
	Temp	Year	Temp	Year	Temp	Year	Temp	Year	Temp	Year	Temp	Year
1	18.8	1903	35.7	1931	16.7	1976	32.2	1982	15.7	1962	33.3	1931
2	19.7	1976	33.8	2001	17.0	1962	31.7	2001	16.3	1903	30.9	1997
3	19.7	1917	33.8	1997	17.8	1958	31.3	1997	16.5	1917	30.5	2001
4	20.4	1962	32.5	1982	18.6	1978	29.1	1952	16.6	1919	30.4	1936
5	20.6	1977	32.3	1918	19.3	1977	28.6	1948	17.5	1978	29.6	1982
6	20.8	1919	32.2	1952	**19.8**	**1993**	28.2	1991	18.0	1977	29.5	1920
7	21.0	1935	31.3	1948	19.9	1944	28.2	1949	18.2	1976	29.0	1918
8	21.4	1904	31.2	1920	20.9	1981	28.1	1974	18.2	1958	28.8	1932
9	21.5	1978	31.0	1953	21.3	1969	28.0	1953	18.7	1935	28.5	1905
10	21.8	1911	30.8	1949	21.4	1985	27.8	1998	**19.0**	**1993**	28.3	1952
11	21.9	1981	30.6	1932	21.5	1961	27.7	1986	19.1	1904	28.1	1930
12	22.4	1969	30.5	1905	**21.6**	**2008**	27.4	2005	19.2	1916	27.8	1974
13	23.0	1958	30.4	1991	21.6	1983	27.3	1972	19.6	1911	27.6	1948
14	23.4	1944	30.4	1959	21.6	1947	27.0	1943	20.0	1961	27.1	1986
15	23.5	1985	30.3	2005	21.8	1942	26.7	1959	20.1	1944	27.1	1953
16	23.5	1909	30.3	1998	22.2	1942	26.6	2006	20.2	1969	27.0	1991
17	23.6	1916	30.2	1930	**22.5**	**2002**	26.6	1990	20.3	1981	26.8	1959
18	23.8	1983	30.1	1936	22.6	1960	26.5	1988	20.7	1947	26.8	1949
19	23.9	1993	29.7	1994	22.7	2000	26.5	1999	**21.2**	**2008**	26.8	1908
20	24.2	2002	29.6	1990	22.8	1995	26.5	1965	21.3	2002	26.7	2005
	24.4	2008										

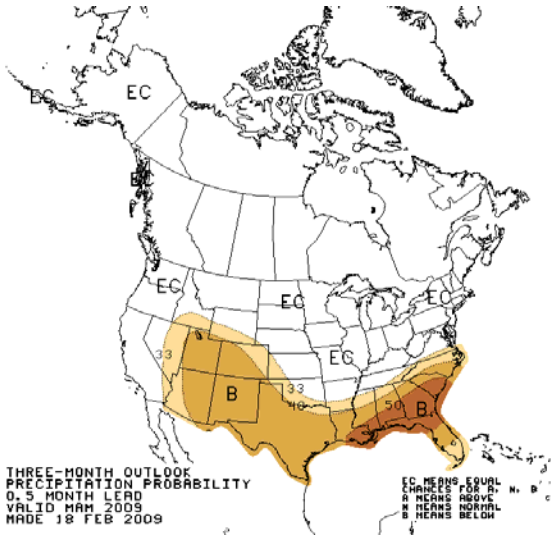
La Nina Sticks Around For The Spring

Very little change is expected over the next few months as the weak La Nina Pacific pattern is expected to persist.

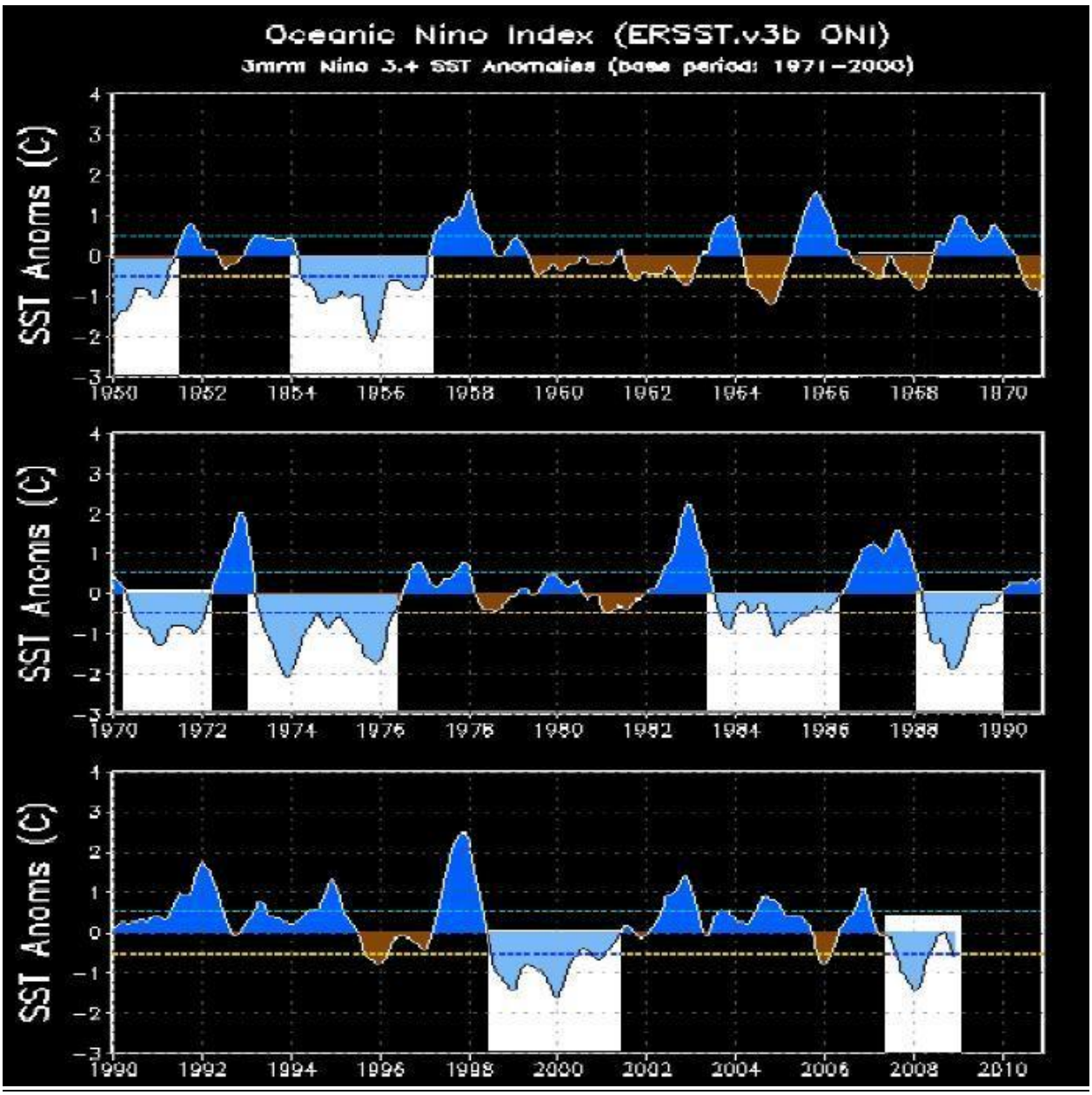


The [CPC Official Seasonal Outlook] for the region is calling for Equal Chances for Above, Below or Normal Temperatures and Precipitation this spring.





Note the pattern of the main La Nina's (highlighted) since the 1950s. Note the extent of the "double barrel" La Ninas of the 1970s, mid 1980s and 1999-2000. A few of these were also found in earlier years.



La Nina Springs in Southeast Michigan

Since now La Nina is expected to persist throughout spring, we had to revamp the spring data to include La Nina springs. In addition, we are on the second leg of a "double" La Nina that began well over a year ago.

Temperatures:

Previous La Nina Springs are not unlike what was found during the winter months as far as temperatures. Monthly data shows a better chance for temperatures averaging below normal during the March and/or early April and then around normal to above later April into May. We are mainly concerned with the trend denoted throughout the season and not specifically any one particular month. Also noted was that March (and April, for that matter) lived up to its volatile temperature nature.

Precipitation:

Data shows precipitation generally averaged around normal in our analogue years. Taking this and recent storm track trends however points to a **normal to slightly above normal** precipitation with an active storm track persisting.

DETROIT	T	E	M	P	S					
SEASON	March	April	MAY	SPG AVE	SPRING	SPRINGS	SEASON			
1887	30.5	45.8	63.0	46.4	1		1887			
1904	33.1	41.2	59.2	44.5	2		1904			
1930	34.4	47.6	61.0	47.7	1		1930			
1939	33.5	44.2	61.4	46.4	3		1939			
1951	36.5	46.0	59.9	47.5	2		1951			
1957	36.9	49.1	56.4	47.5	3		1957			
1972	32.6	44.6	60.3	45.8	4		1972			
1975	32.5	40.9	62.8	45.4	5		1975			
1976	40.4	50.0	56.4	48.9	4		1976			
1985	38.4	51.0	60.1	49.8	1	1	1985			
1989	35.2	45.1	57.5	45.9	6	6	1989			
2001	35.1	51.2	61.2	49.2	5	5	2001			
Ave	34.9	46.4	59.9	47.1						
NORM 30Y	36.9	48.1	59.8	48.3			Norm			
Dep	-2.0	-1.5	0.1	-1.0			Dep			

DETROIT	SNOW			PCPN					
SEASON	March	April	May	March	April	May		SEA TOT	SEASON
1887	9.3	2.5	0.0	1.44	1.19	2.11	4.74	1	1887
1904	14.7	1.8	0.0	4.09	1.65	2.36	8.10	1	1904
1930	14.6	0.4	0.0	1.98	3.60	3.15	8.73	2	1930
1939	1.4	0.7	0.0	2.38	4.04	0.97	7.39	3	1939
1951	7.0	T	0.0	2.60	2.71	3.30	8.61	4	1951
1957	3.9	2.8	0.0	1.76	4.44	2.97	9.17	5	1957
1972	2.5	2.5	0.0	2.55	3.63	2.68	8.86	6	1972
1975	4.5	3.6	0.0	1.66	2.50	2.82	6.98	2	1975 2
1976	7.5	2.1	T	4.24	3.15	3.26	10.65	1	1976 1
1985	6.1	0.9	0.0	4.42	2.11	3.11	9.64	7	1985
1989	2.4	0.5	T	2.16	2.22	4.16	8.54	8	1989
2001	5.4	0.9	0.0	0.93	3.20	3.70	7.83	9	2001 9
Ave	6.6	1.7	0.0	2.52	2.87	2.88	8.27		
NORM 30Y	7.0	1.7	T	2.52	3.05	3.05	8.62		
Dep	-0.4	0.0	T	0.00	-0.18	-0.17	-0.35		

Color	Temps	Degrees		Rain	Inches		Snow	Inches
Legend	Below	1.0>		Below	1.00>		Below	>2.0
	Normal	0.0-1.0		Normal	0.00-1.00		Normal	>-2.0<2.0
	Above	1.0>		Above	1.00>		Above	>2.0

Severe Weather Statistics during La Nina Springs

Past experience has shown that La Nina springs tend to run a bit higher risk of severe weather across the Great Lakes. See below from NOAA:

What impacts do El Niño and La Niña have on tornadic activity across the country?

Since a strong jet stream is an important ingredient for severe weather, the position of the jet stream determines the regions more likely to have severe weather.

Contrasting El Niño and La Niña winters, the jet stream over the United States is considerably different. During El Niño the jet stream is oriented from west to east over the northern Gulf of Mexico and northern Florida. Thus this region is most susceptible to severe weather. **During La Niña the jet stream extends from the central Rockies east- northeastward to the eastern Great Lakes.** Thus severe weather is likely to be further north and west during La Niña than El Niño.

Just keeping one eye on our storm track pattern this past winter and the other on past La Nina data may enhance our chances for severe weather this spring and summer.